

Topics

Ch. 2 Expansion, Common Factoring,
Decomposition, Special Factoring

Ch. 3 Solving Equations,
Modeling Quadratic Word Problems on a Graph,
Reading the zeros and roots from an Equation,
Reading the zeros and roots from a Graph

Test Thursday Mar 22nd

Ch 2
p 120-121
1, 3-6, 8-13, 15-19

Chapter 3 Review
p.182-183
q. 1-9

Mar 5-8:59 AM

Oct 12-7:51 AM

Section 2.1 - Expansion Folc
 $(x+7)(x-3) \Rightarrow x^2 + 7x - 3x - 21$
 $x^2 + 4x - 21$
 Section 2.2 - Factoring (common)
 $27x^2 - 9x \quad 9x(3x-1)$
 Section 2.3 - Decomposition
 $s=0 \quad t = -\frac{1}{3}$
 $x^2 + 9x + 20 \quad 4 \quad 5$
 Section 2.4 - Special Factoring
 $49a^2 + 42a + 9 = 0$
 $7a \quad x \quad 3 \quad \checkmark \quad 2 = 42a$
 $(7a+3)^2 \quad (a^2-9)$
 Steps Factoring
 i) common factor
 ii) perfect squares / difference of squares
 iii) decomposition
 iv) nonfactorable / quadratic formula

Oct 13-9:44 AM

$x^2 - 2x - 35$ $-2 \quad -35$
 $x^2 - 7x + 5x - 35$ $-7 \quad 5$
 $(x-7)(x+5)$
 $7, -5$
 $\frac{5+t}{2} = \frac{7-5}{2} = \frac{2}{2} = 1$

Oct 13-10:19 AM

$2x^2 + 7x + 3$ $+7 \quad +3$
 $2x^2 + 1x + 6x + 3$
 $x(2x+1) + 3(2x+1) \quad +1 \quad +6$
 $f(x) = a(x-s)(x-t)$
 $(2x+1)(x+3)$
 $s = -\frac{1}{2}, t = -3$

Oct 13-10:32 AM

MCF 3M Test Preparation Ch 2 & 3

9. Factor.
 a) $x^2 + 2x - 15$ c) $x^2 - 12x + 35$
 b) $n^2 - 8n + 12$ d) $2a^2 - 2a - 24$

3. Write a simplified expression to represent the area of the triangle shown.

$3x+4$
 $4x-2$
 $\frac{b \times h}{2}$
 $A = \frac{(4x-2)(3x+4)}{2}$
 $\frac{12x^2 + 16x - 6x - 8}{2}$
 $\frac{12x^2 + 10x - 8}{2}$
 $6x^2 + 5x - 4$

Oct 14-10:45 AM

MCF 3M Test Preparation Ch 2 & 3

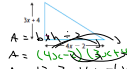
9. Factor.

a) $x^2 + 2x - 15$ c) $x^2 - 12x + 35$
 b) $m^2 - 8m + 12$ d) $2a^2 - 2a - 24$

A | M
 $+2 \quad -15$
 $-3 \quad 5$
 $x^2 + 5x - 3x - 15$
 $x(x+5) - 3(x+5)$
 $(x+5)(x-3)$

$2a^2 - 2a - 24$
 $2(a^2 - a - 12)$ **A | M**
 $-12 \quad 12$
 $2(a^2 + 3a - 4a - 12)$
 $2(a(a+3) - 4(a+3))$
 $2(a+3)(a-4)$

8. Write a simplified expression to represent the area of the triangle shown.



$A = \frac{1}{2}bh = \frac{1}{2}(6)(4) = 12$
 $A = \frac{1}{2}(12x^2 + 16x - 6)(-8) \div 2$
 $A = \frac{1}{2}(12x^2 + 16x - 6) \div 2$
 $A = 6x^2 + 8x - 3$

Oct 14-10:45 AM

$x^2 - 12x + 35$ **A | M**
 $-12 \quad 13 \quad 5$
 $x^2 - 7x - 5x + 35$
 $x(x-7) - 5(x-7)$
 $(x-7)(x-5)$

A | M
 $-4 \quad -60$
 $+6 \quad -10$

Oct 3-8:36 AM

5. Factor.

a) $8x^2 + 10x + 3$ d) $15x^2 - 4x - 4$

13. Factor.

a) $6x^2 + 11xy + 3y^2$ c) $8x^2 - 14xy + 3y^2$

Oct 11-7:35 AM

5. Factor.

a) $8x^2 + 10x + 3$ d) $15x^2 - 4x - 4$

$8x^2 + 6x + 4x + 3$ **A | M**
 $+10 \quad +24$
 $2x(4x+3) + 1(4x+3)$
 $(2x+1)(4x+3)$

A | M
 $-4 \quad -60$
 $+6 \quad -10$

13. Factor.

a) $6x^2 + 11xy + 3y^2$ c) $8x^2 - 14xy + 3y^2$

$6x^2 + 9xy + 2xy + 3y^2$ **A | M**
 $+11 \quad +18$
 $3x(2x+3y) + y(2x+3y)$
 $(3x+y)(2x+3y)$

A | M
 $+18 \quad 9 \quad 2$

Oct 11-7:35 AM

7. A field-hockey ball must stay below waist height, approximately 1 m, when shot; otherwise, it is a dangerous ball. Sally hits the ball. The function $h(t) = -5t^2 + 10t$, where $h(t)$ is in metres and t is in seconds, models the height of the ball. Has she shot a dangerous ball? Explain.

Oct 11-7:38 AM

7. A field-hockey ball must stay below waist height, approximately 1 m, when shot; otherwise, it is a dangerous ball. Sally hits the ball. The function $h(t) = -5t^2 + 10t$, where $h(t)$ is in metres and t is in seconds, models the height of the ball. Has she shot a dangerous ball? Explain.

$h(t) = -5t^2 + 10t$
 $1 = -5t^2 + 10t$
 $0 = -5t^2 + 10t - 1$
 TI 83 solve for roots

$h(t) = -5t^2 + 10t$
 $h(t) = -5t(t-2)$
 $0 = -5t \quad 0 = t-2$
 $t = 0 \quad t = 2$

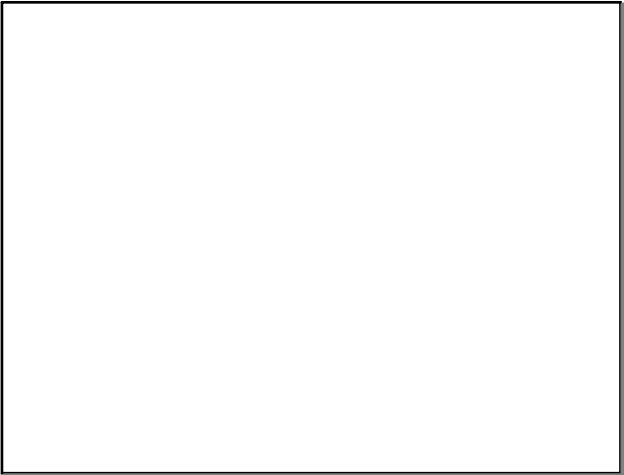
$\frac{5t}{2} = \frac{0+2}{2} = \frac{2}{2} = 1$

$h(1) = -5(1)^2 + 10(1)$
 $h(1) = -5 + 10$
 $h(1) = 5$

$h(2) = -5(2)^2 + 10(2)$
 $h(2) = -20 + 20$
 $h(2) = 0$

It is a dangerous ball because at 1 sec the ball reaches 5 m in the air.

Oct 11-7:38 AM



Oct 8-7:28 AM